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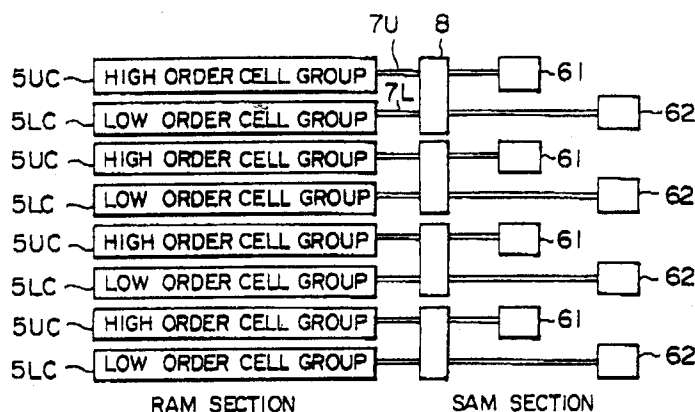
EUROPEAN PATENT APPLICATION(21) Application number: **91116564.5**(51) Int. Cl.⁵: **G11C 7/00**(22) Date of filing: **27.09.91**(30) Priority: **29.09.90 JP 260718/90**(43) Date of publication of application:
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DE FR GB(88) Date of deferred publication of the search report:
11.08.93 Bulletin 93/32(71) Applicant: **KABUSHIKI KAISHA TOSHIBA**
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Postfach 81 04 20
W-8000 München 81 (DE)(54) **Semiconductor memory device.**

(57) There is disclosed a semiconductor memory device as a multi-port DRAM having split SAM registers. This memory device comprises a RAM section of which memory area is halved into first and second cell arrays (5UC, 5LC) by the value of a specific bit constituting a portion of a column address, a SAM section comprised of first and second registers (61, 62), first second data transfer paths (7U, 7L) for carrying out data transfer from the first and second

cell arrays to the first and second registers, respectively, third and fourth data transfer paths (7U, 7L) for shifting data from the first and second cell arrays to the second and first data transfer paths, respectively, and first, second third and fourth transfer controllers (8) are inserted into the first, second third and fourth data transfer paths, respectively. Thus, with this multi-port DRAM, degree of freedom of mapping is improved in constituting a frame buffer.

**FIG. 6****EP 0 479 163 A3**



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EUROPEAN SEARCH REPORT

Application Number

EP 91 11 6564

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X A	EP-A-0 326 172 (NEC CORPORATION) * column 6, line 48 - column 7, line 27; figure 4 * ---	1 2-5	G11C7/00
E	WO-A-9 117 544 (KABUSHIKI KAISHA TOSHIBA) * abstract * * figures 11,12 * ---	1	
A	EP-A-0 178 922 (FUJITSU LTD) * page 9, line 14 - page 11, line 7; figures 7,10 * ---	1	
A	US-A-4 947 373 (YAMAGUCHI ET AL) * column 3, line 21 - column 11, line 47; figures 1,2 * -----	1	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			G11C
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 24 MAY 1993	Examiner CUMMINGS A.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			